left ventricle than over the conus of the right ventricle. He found this accentuation of the first sound to be present in cases of hypertrophy following exercise, pregnancy, old age, and associated with obesity, certain valvular lesions, early arteriosclerosis, and nephritis. It was not present in cases of orthostatic albuminuria. The weakening of the first sound, so frequently noticed with the heaving impulse of marked hypertrophy, he considers to be chiefly a matter of poor sound conduction.

The Rise of Blood Pressure in Nephritis.—Marcuse (*Berlin. klin. Woch.*, 1909, xlvi, 1352) bases his theory of the rise of blood pressure in nephritis on the investigations of Wiesel and Schur as to the presence of adrenalin in the blood of patients suffering from nephritis. He suggests that the renal inflammation causes an obstruction to the flow of blood in both kidneys, and that as a result of this there is an increased flow of blood in the inferior suprarenal artery, which is a collateral of the renal artery. The consequent hyperemia of the adrenals would lead to their hypertrophy, and with this would come an increase in the production of adrenalin which would cause a rise of blood pressure.

Effect of the Injection of Bile on the Circulation.—While it has been generally considered that the slowing of the pulse and the lowering of blood pressure in obstructive jaundice is caused by the retention of bile salts, King and Stewart (*Jour. Exper. Med.*, 1909, xi, 673) have shown, by the intravenous injection of whole bile and of its constituents into dogs, that these substances play a very unimportant part. The injection of pig's whole bile caused a preliminary rise in blood pressure, then a progressive fall, followed by a slowing of pulse rate. The bradycardia is due to heightened vagus tone, as it is relieved by cutting the vagi, or by the administration of atropine. The injection of an amount of sodium gylcocholate somewhat in excess of that contained in a lethal dose of whole bile produced no circulatory effects. The injection of bile pigment (biliverdin), however, produced all the effects of the injection of whole bile, except for the initial rise of blood pressure, and the lethal dose of uncombined pigment corresponded almost exactly to the amount of pigment contained in a lethal dose of whole bile. Experiment also showed that when the bile pigment is in chemical combination with calcium or sodium, a comparatively non-toxic compound is formed. To study the role of calcium in the action of pigment further, obstructive jaundice was produced in dogs by tying the common bile duct. An analysis of the tissues then showed a definite increase in the calcium content of the blood, and a definite diminution of calcium in muscle, liver, and brain. They believe that the bile pigments circulating in the blood in obstructive jaundice absorb the available calcium from the organs and tissues, and by combination with it render themselves less toxic.

The Influence of the Thyroid on Carbohydrate Metabolism.—King's experiments (*Jour. Exper. Med.*, 1909, xi, 665) relate to the interaction of the thyroid and pancreas. Clinically, glycosuria is not uncommon in exophthalmic goitre, while in myxœdema it practically never occurs. Gray and de Sautelle (*Jour. Exper. Med.*, 1909, xi, 659) have shown that glycosuria produced by the administration of ether is materially reduced by extirpation of the thyroid. In order to exclude as far as possible the action of organs other than those under investigation, and to make the conditions as simple as possible, King used Cohnheim's method of working with extracts of organs. His object was to find what influence the thyroid gland has on the action of muscle juice and pancreatic juice in breaking down dextrose. A series of experiments showed that the addition of thyroid to the mixture of muscle, pancreas, and dextrose retarded very definitely the destruction of dextrose. The same result was obtained when the thyroid was boiled—proving that the action was not due to a ferment, but to a thermostable body. Further work showed that iodothyrin, the active substance of the thyroid, acts exactly as does normal thyroid. His experiments show that the relation between the thyroid and the pancreas is antagonistic, in that the carbohydrate mechanism is rendered less efficient when the thyroid enters into the reaction, and they agree with the clinical evidence, which shows that the thyroid has a very definite control over carbohydrate metabolism.

SURGERY.

UNDER THE CHARGE OF
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Transplantation of Joints.—Lexer (*Archiv f. klin. Chir.*, 1909, xc, 263) believes that the transplantation of joints has a future, but that its perfection will come slowly. He offers some observations which he has made in connection with his experience. The incision should be in the form of a flap which should be so made that it will avoid as far as possible, falling over the transplanted part, so that there will be less opportunity for the escape of wound secretions at a suture and the formation of a fistula. In resections of the knee, the incision should begin on each side on a level with the upper border of the subcrural bursa and should extend downward to the tuberosity of the tibia, where the transverse portion of the incision is placed. The part should not be rendered bloodless for the removal of the diseased or injured joint preparatory to transplantation, since the least collection of blood would prevent the early adhesion of the soft tissues to the transplanted joint, which is necessary to quick healing. In fashioning the defect for the reception of the transplanted joint, the bone should be divided at right angles to the long axis. It may even be notched to